What is claimed is:

1. A manufacturing apparatus for a carbon nanotube, comprising:

at least two electrodes whose tips are opposed to each other; and

at least a power supply that applies a voltage between the two electrodes to generate discharge plasma in a discharge area between the two electrodes, wherein at least one of two electrodes whose tips are opposed to each other is made of a porous carbonaceous material.

2. A manufacturing apparatus for a carbon nanotube according to claim 1, wherein the porous carbonaceous material is previously subjected to a dehydration process.

3. A manufacturing apparatus for a carbon nanotube according to claim 1, wherein the porous carbonaceous material is binchotan charcoal or bamboo charcoal.

4. A manufacturing apparatus for a carbon nanotube according to claim 1, wherein the porous carbonaceous material is a charcoal processed more than 700°C.

5. A manufacturing apparatus for a carbon nanotube according

to claim 1, wherein the porous carbonaceous material is a charcoal processed in a range of 850~2500°C.

6. A manufacturing apparatus for a carbon nanotube according to claim 1, wherein the porous carbonaceous material is a charcoal processed in a range of 1000~2500°C.

7. A manufacturing apparatus for a carbon nanotube according to claim 1, wherein at least an anode of the two electrodes whose tips are opposed to each other is made of the porous carbonaceous material.

8. A manufacturing apparatus for a carbon nanotube according to claim 1, further comprising a magnetic field generating unit that forms, in a generation area of the discharge plasma, at least a magnetic field having lines of magnetic force in multiple directions or a magnetic field having a component in parallel with a flowing direction of a discharge current.

9. A manufacturing apparatus for a carbon nanotube according to claim 1, wherein the discharge plasma generated in the discharge area is arc plasma.

10. A manufacturing method for a carbon nanotube, comprising:

applying a voltage between two electrodes whose tips are opposed to each other;

generating discharge plasma in a discharge area between the two electrodes; and

using an electrode made of a porous carbonaceous material as at least one of the two electrodes whose tips are opposed to each other.

11. A manufacturing method for a carbon nanotube according to claim 10, further comprising subjecting the porous carbonaceous material to a dehydration process prior to the generating of the discharge plasma in the discharge area between the two electrodes.

12. A manufacturing method for a carbon nanotube according to claim 10, wherein the porous carbonaceous material is binchotan charcoal or bamboo charcoal.

13. A manufacturing method for a carbon nanotube according to claim 10, wherein the porous carbonaceous material is a charcoal processed more than 700°C.

14. A manufacturing method for a carbon nanotube according to claim 10, wherein the porous carbonaceous material is a charcoal processed in a range of 850~2500°C.

15. A manufacturing method for a carbon nanotube according to claim 10, wherein the porous carbonaceous material is a charcoal processed in a range of 1000~2500°C.

16. A manufacturing method for a carbon nanotube according to claim 10, further comprising using the electrode made of the porous carbonaceous material as at least an anode of the two electrodes whose tips are opposed to each other.

17. A manufacturing method for a carbon nanotube according to claim 10, further comprising forming, in a generation area of the discharge plasma, at least a magnetic field having lines of magnetic force in multiple directions or a magnetic field having a component in parallel with a flowing direction of a discharge current.

18. A manufacturing method for a carbon nanotube according to claim 10, wherein the discharge plasma generated in the discharge area is arc plasma.